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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,807	12/24/2003	Hiroyuki Kuroda	247105US2	1722
22850	7590	10/03/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ROYER, WILLIAM J	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

145-2

Office Action Summary	Application No. 10/743,807	Applicant(s) KURODA, HIROYUKI	
	Examiner William J. Royer	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-42 is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1. ☒ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10222004; 9162005</u> . | 6) <input type="checkbox"/> Other: ____. |

This application is in condition for allowance except for the following formal matters:

Drawings

Figures 22 and 24 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

On page 1, line 15, change "for" to --- from ---.

On page 2, line 19, change "sheet of full color image" to --- full color image on a sheet ---.

On page 3, line 19, change "the sheet" to --- a sheet ---.

On page 5, line 15, before "causes" insert --- the ---.

On page 7, line 9, "at least one side of entire of the belt" should be rewritten in a more grammatically correct form.

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On page 8, lines 9-10, "at least one side of entire of the belt" should be rewritten in a more grammatically correct form.

On page 9, lines 10 and 24, "at least one side of entire of the belt" should be rewritten in a more grammatically correct form.

On page 9, lines 14 and 17, after "deciding" insert --- step ---.

On page 9, line 16, before "same" insert --- the ---.

On page 10, lines 6, 9 and 12, after "deciding" insert --- step ---.

On page 10, line 10, before "speed" insert --- the ---.

On page 10, line 11, before "same" insert --- the ---.

On page 12, line 2, change "forth" to --- fourth ---.

On page 16, lines 11 and 18, after "separated" insert --- one ---.

On page 16, line 16, change "the manual" to --- a manual ---.

On page 19, line 5, before "same" insert --- the ---.

On page 21, line 18, change "a pair of" to --- a ---.

On page 23, line 12, change "1" to --- S1 ---.

On page 23, line 13, change "2" to --- S2 ---.

On page 23, line 15, change "3" to --- S3 ---.

On page 23, line 17, change "4" to --- S4 ---.

On page 24, line 2, change "5" to --- S5 ---.

On page 24, line 4, change "4" to --- S4 ---.

On page 24, line 4, change "6" to --- S6 ---.

On page 24, lines 8 and 18, change "7" to --- S7 ---.

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On page 24, lines 12, 19 and 20, change "10" to --- S10 ---.

On page 24, lines 13 and 14, change "8" to --- S8 ---.

On page 24, line 16, change "9" to --- S9 ---.

On page 24, line 21, change each occurrence of "11" to --- S11 ---.

On page 25, lines 1, 8 and 21, change "12" to --- S12 ---.

On page 25, lines 5 and 21, change each occurrence of "13" to --- S13 ---.

On page 25, lines 6 and 21, change "14" to --- S14 ---.

On page 25, line 9, change each occurrence of "15" to --- S15 ---.

On page 25, line 13, change "16" to --- S16 ---.

On page 25, lines 14, 15 and 17, change each occurrence of "2" to --- S2 ---.

On page 25, line 17, change "3" to --- S3 ---.

On page 25, line 20, change "7" to --- S7 ---.

On page 25, line 21, change "10" to --- S10 ---.

On page 25, line 21, change "11" to --- S11 ---.

On page 26, lines 14 and 16, after "sensor" insert --- 6 ---.

On page 26, line 14, after "belt" insert --- 10 ---.

On page 27, line 3, after "belt" insert --- 10 ---.

On page 27, line 13, after "roller" insert --- 15 ---.

On page 27, line 20, change "a driven" to --- the driven ---.

On page 28, line 21, change "7" to --- S7 ---.

On page 28, line 21, change "16" to --- S16 ---.

On page 28, line 23, change "11" to --- S11 ---.

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On page 29, line 22, it is stated that Figure 11 is "a flowchart of an image forming apparatus", however, Figure 11 is only a "flowchart" not an "image forming apparatus".

On page 30, line 10, after "belt" insert --- 10 ---.

On page 30, lines 11, 22 and 24, after "device" insert --- 70 ---.

On page 31, line 2, change "21" to --- S21 ---.

On page 31, line 3, change "22" to --- S22 ---.

On page 31, line 6, change "23" to --- S23 ---.

On page 31, lines 8, 11 and 14, change "24" to --- S24 ---.

On page 31, line 12, change "25" to --- S25 ---.

On page 31, line 14, change "26" to --- S26 ---.

On page 31, line 18, change "27" to --- S27 ---.

On page 31, line 22, change "30" to --- S30 ---.

On page 31, line 23, change each occurrence of "28" to --- S28 ---.

On page 32, line 2, change "29" to --- S29 ---.

On page 32, line 6, change "41" to --- S41 ---.

On page 32, lines 7 and 8, change "31" to --- S31 ---.

On page 32, line 11, change "42" to --- S42 ---.

On page 32, lines 13 and 14, change "32" to --- S32 ---.

On page 32, line 15, change "33" to --- S33 ---.

On page 32, line 19, change "34" to --- S34 ---.

On page 32, line 21, change "27" to --- S27 ---.

On page 32, lines 23 and 24, change "30" to --- S30 ---.

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On page 32, line 25, change each occurrence of "35" to --- S35 ---.

On page 33, line 4, change "36" to --- S36 ---.

On page 33, line 8, change each occurrence of "37" to --- S37 ---.

On page 33, line 9, change "38" to --- S38 ---.

On page 33, line 11, change "36" to --- S36 ---.

On page 33, line 12, change each occurrence of "39" to --- S39 ---.

On page 33, line 16, change "40" to --- S40 ---.

On page 33, lines 17 and 18, change "22" to --- S22 ---.

On page 33, line 19, change "29" to --- S29 ---.

On page 33, line 21, change each occurrence of "41" to --- S41 ---.

On page 33, line 21, change "42" to --- S42 ---.

On page 33, line 25, change "43" to --- S43 ---.

On page 34, lines 1, 2 and 4, change each occurrence of "22" to --- S22 ---.

On page 34, line 4, change "23" to --- S23 ---.

On page 34, line 8, change "27" to --- S27 ---.

On page 34, line 8, change "30" to --- S30 ---.

On page 34, line 8, change "35" to --- S35 ---.

On page 34, line 8, change "36" to --- S36 ---.

On page 34, line 8, change "37" to --- S37 ---.

On page 34, line 8, change "38" to --- S38 ---.

On page 34, line 23, change "with the" to --- with ---.

On page 36, line 8, after "belt" insert --- 10 ---.

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On page 36, line 19, after "occurrence of" insert --- an ---.

On page 37, line 23, change "51" to --- S51 ---.

On page 38, line 1, change "52" to --- S52 ---.

On page 38, line 4, change each occurrence of "53" to --- S53 ---.

On page 38, line 10, change "54" to --- S54 ---.

On page 38, lines 13 and 17, change each occurrence of "55" to --- S55 ---.

On page 38, line 18, change "56" to --- S56 ---.

On page 38, line 21, change "57" to --- S57 ---.

On page 38, line 25, after "belt" insert --- 10 ---.

On page 39, line 1, after "loops" insert --- R1, R2, R3 ---.

On page 39, line 6, after "belt" insert --- 10 ---.

On page 39, lines 9, 15 and 19, after "device" insert --- 70 ---.

On page 39, line 20, after "In" insert --- a ---.

On page 39, line 25, change "61" to --- S61 ---.

On page 40, line 4, change "62" to --- S62 ---.

On page 40, lines 6, 10-11 and 14-15, after "primary control loop" insert --- R1 ---.

On page 40, lines 7, 11 and 15, after "secondary control loop" insert --- R2 ---.

On page 40, line 8, change "61" to --- S61 ---.

On page 40, line 9, change "63" to --- S63 ---.

On page 42, line 17, after "belt" insert --- 10 ---.

On page 43, lines 1 and 2, after "belt" insert --- 10 ---.

On page 43, line 2, after "roller" insert --- 15 ---.

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On page 43, line 3, after "motor" insert --- 11 ---.

On page 44, line 12, change "71" to --- S71 ---.

On page 44, lines 13 and 25, change "72" to --- S72 ---.

On page 44, line 15, change "90" to --- S90 ---.

On page 44, line 17, change "73" to --- S73 ---.

On page 44, line 22, change "74" to --- S74 ---.

On page 44, line 23, change "75" to --- S75 ---.

On page 45, line 1, change "73" to --- S73 ---.

On page 45, line 2, change "76" to --- S76 ---.

On page 45, lines 6 and 14, change "77" to --- S77 ---.

On page 45, line 9, change "80" to --- S80 ---.

On page 45, line 10, change each occurrence of "78" to --- S78 ---.

On page 45, line 13, change "79" to --- S79 ---.

On page 45, line 15, change "80" to --- S80 ---.

On page 45, lines 16 and 17, change "81" to --- S81 ---.

On page 45, line 21, change "82" to --- S82 ---.

On page 45, line 25, change each occurrence of "83" to --- S83 ---.

On page 46, lines 2, 9, 10, 12 and 16, change each occurrence of "72" to --- S72

---.

On page 46, lines 3 and 16, change "82" to --- S82 ---.

On page 46, line 4, change each occurrence of "84" to --- S84 ---.

On page 46, line 8, change "85" to --- S85 ---.

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On page 46, line 12, change "90" to --- S90 ---.

On page 46, line 15, change "77" to --- S77 ---.

On page 46, line 16, change "80" to --- S80 ---.

On page 46, line 16, change "81" to --- S81 ---.

On page 46, line 16, change "83" to --- S83 ---.

On page 46, line 16, change "73" to --- S73 ---.

On page 46, line 16, change "74" to --- S74 ---.

On page 46, line 24, after "belt" insert --- 10 ---.

On page 47, lines 6, 11 and 20, after "belt" insert --- 10 ---.

On page 47, line 10, after "motor" insert --- 11 ---.

On page 47, line 12, after "primary control loop" insert --- R1 ---.

On page 47, line 12, after "tertiary control loop" insert --- R3 ---.

On page 48, line 14, change "91" to --- S91 ---.

On page 48, line 15, change "92" to --- S92 ---.

On page 48, line 18, change "108" to --- S108 ---.

On page 48, line 20, change "93" to --- S93 ---.

On page 48, line 24, change "94" to --- S94 ---.

On page 48, line 25, change "95" to --- S95 ---.

On page 49, line 2, change "92" to --- S92 ---.

On page 49, line 3, change "93" to --- S93 ---.

On page 49, line 4, change "96" to --- S96 ---.

On page 49, line 8, change "97" to --- S97 ---.

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On page 49, line 12, change "100" to --- S100 ---.

On page 49, line 13, change each occurrence of "98" to --- S98 ---.

On page 49, line 17, change "99" to --- S99 ---.

On page 49, line 21, change "111" to --- S111 ---.

On page 49, lines 22 and 23, change "101" to --- S101 ---.

On page 50, line 2, change "112" to --- S112 ---.

On page 50, lines 3 and 4, change "102" to --- S102 ---.

On page 50, line 5, change "103" to --- S103 ---.

On page 50, line 9, change "104" to --- S104 ---.

On page 50, line 11, change "97" to --- S97 ---.

On page 50, line 13, change "100" to --- S100 ---.

On page 50, line 15, change each occurrence of "105" to --- S105 ---.

On page 50, line 19, change "106" to --- S106 ---.

On page 50, line 23, change each occurrence of "107" to --- S107 ---.

On page 50, line 24, change "92" to --- S92 ---.

On page 50, lines 24 and 25, change "108" to --- S108 ---.

On page 51, lines 1 and 23, change "106" to --- S106 ---.

On page 51, line 2, change each occurrence of "109" to --- S109 ---.

On page 51, line 6, change "110" to --- S110 ---.

On page 51, lines 7, 8, 16, 17, 19 and 23, change each occurrence of "92" to ---
S92 ---.

On page 51, line 9, change "99" to --- S99 ---.

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On page 51, line 11, change "11" to --- S111 ---.

On page 51, line 11, change "112" to --- S112 ---.

On page 51, line 14, change "113" to --- S113 ---.

On page 51, line 19, change "108" to --- S108 ---.

On page 51, line 22, change "97" to --- S97 ---.

On page 51, line 23, change "100" to --- S100 ---.

On page 51, line 23, change "105" to --- S105 ---.

On page 51, line 23, change "107" to --- S107 ---.

On page 51, line 23, change "93" to --- S93 ---.

On page 51, line 23, change "94" to --- S94 ---.

On page 51, line 24, change "95" to --- S95 ---.

On page 53, line 17, change "121" to --- S121 ---.

On page 53, line 20, change "122" to --- S122 ---.

On page 53, line 23, change each occurrence of "123" to --- S123 ---.

On page 54, line 4, change "123" to --- S123 ---.

On page 54, line 5, change "124" to --- S124 ---.

On page 54, lines 8, 9 and 12, change "125" to --- S125 ---.

On page 54, line 13, change "126" to --- S126 ---.

On page 54, line 16, change "127" to --- S127 ---.

On page 54, line 20, after "belt" insert --- 10 ---.

On page 54, line 21, after "loops" insert --- R1, R2, R3 ---.

On page 55, lines 1 and 22, after "belt" insert --- 10 ---.

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On page 55, line 10, after "loop" insert --- R1 ---.

On page 55, line 11, after "secondary" insert --- control loop R2 ---.

On page 55, line 11, after "and" insert --- the ---.

On page 55, line 11, change "loops" to --- loop R23 ---.

On page 56, line 2, after "belt" insert --- 10 ---.

On page 56, line 24, after "loop" insert --- R1 ---.

On page 57, lines 4, 6, 11, 15, 17, 21, 22 and 24, after each occurrence of "belt" insert --- 10 ---.

On page 57, lines 9, 22 and 23, after "sensor" insert --- 6 ---.

On page 57, line 10, after "sensor" insert --- 2301 ---.

On page 57, line 13, after "encoder" insert --- 2302 ---.

On page 57, lines 20 and 25, after "loop" insert --- R1 ---.

On page 57, lines 21 and 23, after "scale" insert --- 5 ---.

On page 57, line 22, after "loop" insert --- R2 ---.

On page 58, lines 1, 2 and 14, after "scale" insert --- 5 ---.

On page 58, line 1, after "loop" insert --- R2 ---.

On page 58, line 2, after "sensor" insert --- 6 ---.

On page 58, lines 3, 4, 11 and 13, after "belt" insert --- 10 ---.

On page 58, lines 9 and 13, after "loop" insert --- R1 ---.

On page 58, line 9, after "motor" insert --- 11 ---.

On page 74, line 2, change "of the" to --- of a ---.

Appropriate correction is required.

Claim Objections

Claims 2, 4, 17, 19, 20, 35 and 38-42 are objected to because of the following informalities:

Claim 2, line 2, after "detects" insert --- a ---.

Claim 4, line 3, after "detects" insert --- a ---.

Claim 17, line 2, change "of" to ---from ---.

Claim 17, line 5, change "of entire of the belt" to --- of the entire belt ---.

Claim 19, line 3, after "detects" insert --- a ---.

Claim 20, line 2, after "on" insert --- a ---.

Claim 35, line 3, change "of" to --- from ---.

Claim 35, line 6, change "of entire of the belt" to --- of the entire belt ---.

Claim 38, line 4, before "controlling" insert --- step of ---.

Claim 38, line 7, after "deciding" insert --- step ---.

Claim 39, line 1, before "controlling" insert --- step of ---.

Claim 40, line 1, before "calculating" insert --- step of ---.

Claim 40, line 9, after "controlling" insert --- step ---.

Claim 41, line 5, change "of entire of the belt" to --- of the entire belt ---.

Claim 41, lines 10 and 14, after "deciding" insert --- step ---.

Claim 41, line 12, before "speed" insert --- a ---.

Claim 41, line 13, before "same" insert --- the ---.

Claim 42, line 5, change "of entire of the belt" to --- of the entire belt ---.

Claim 42, lines 13, 17 and 20, after "deciding" insert --- step ---.

Claim 42, line 18, before "speed" insert --- a ---.

Claim 42, line 19, before "same" insert --- the ---.

Appropriate correction is required.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Allowable Subject Matter

Claims 1-42 are allowable over the prior art of record because the prior art of record fails to teach or suggest a method or an apparatus capable of correcting the speed of a belt as claimed by the applicant.

Relevant Prior Art

The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Castelli et al disclose systems and methods for surface position and velocity measurement for a photoreceptor belt.

Kudo discloses a drive control device for an image forming apparatus.

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Kamoshita et al disclose a belt moving device for an image forming apparatus.

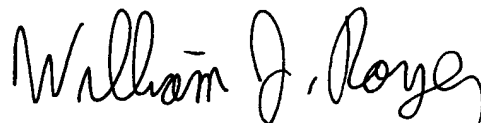
Kamiya et al disclose an image forming apparatus that includes a rotary member speed detection mechanism.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Royer whose telephone number is (571) 272-2140. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur T. Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William J. Royer
Primary Examiner
Art Unit 2852

wjr
September 30, 2005